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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/509,548	04/12/2000	KARL SIEMENSMEYER	0524-3264-0-	5297

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EXAMINER

BISSETT, MELANIE D

ART UNIT	PAPER NUMBER
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1711

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DATE MAILED: 03/01/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/509,548

Applicant(s)

SIEMENSMEYER ET AL.

Examiner

Melanie Bagwell-Bissett

Art Unit

1711

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14-27 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 14-27 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 1.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

Summary of the Claims

1. Claim 14 is drawn to a heat-insulating coating comprising at least one non-micellar cholesteric layer, where the coating reflects at least 40% of incident radiation in the infrared wavelength range above 750 nm. Claim 15 limits the transmission of visible light, claims 16-19 limit the cholesteric layer structure and properties, claim 20 further limits the amount of infrared reflection, claim 21 limits the cholesteric composition, and claims 24-25 limit the intended use of the coating. Claim 22 is drawn to a process for making the coating of claim 14, claim 23 is drawn to a multicomponent coating system comprising the coating of claim 17, and claims 26-27 are drawn to a film comprising the coating of claim 14.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 14 and 16-21, and 23-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Nippon Sheet Glass Co., Ltd.

4. The reference teaches a heat-reflecting glass for use in window glasses for buildings or houses [0002], where the glass is a multicomponent coating system comprising a cholesteric liquid crystal polymer film coating (Figure 4). Since the reference teaches the use of the inventive glass structures for window structures, it is

the examiner's position that the coated glass could also be used in automotive applications as heat-reflecting windows. Also, since Figure 4 shows the coating as a laminate layer between two substrates, the coating inherently possesses adhesive properties and therefore represents an adhesive layer.

5. Figure 1 shows a multi-layered cholesteric coating, where each layer reflects >40% of radiation in wavelength ranges above 750 nm. Each layer of the cholesteric coating has a different reflection maximum. Figures 2 and 4 show laminates reflecting an average >40% of radiation between 750 nm and 2000 nm. Since the graphs show a majority of reflection above 75%, it is the examiner's position that the reference suggests reflection of at least 75% of incident radiation above 750 nm.

6. The reference describes laminates made by layering cholesteric liquid crystals having opposite spiral axes and by inserting a $\lambda/2$ sheet between two cholesteric films having the same direction of spiral axis. Films can be made by quenching a cholesteric polymer, thus teaching the freezing of a cholesteric phase by rapid cooling below T_g [0012].

7. Claim 22 is rejected under 35 U.S.C. 102(b) as being anticipated by Nippon Sheet Glass Co., Ltd. as evidenced by Armstrong World (GB 2132623A).

8. Further, the reference teaches forming films by photopolymerizing a composition containing a photoinitiator, a photoreactive polyfunctional monomer, and a cholesterol derivative monomer by the teaching of Japan Kokai 59-109505 [0012]. An English equivalent, Armstrong World, teaches a method of applying the composition between

Art Unit: 1711

glass substrates, adjusting the temperature, and irradiating the film to photopolymerize the coating. Since Nippon Sheet Glass Co., Ltd. teaches films obtained as shown by the Japanese reference, the English equivalent is incorporated within, and the reference teaches the process of applying the composition to a transparent substrate and curing the coating.

9. Claim 15 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Nippon Sheet Glass Co., Ltd.

10. Nippon Sheet Glass Co., Ltd. applies as above, teaching the compositions as transmitting at least about 70% of visible light between 400 and 750 nm [0007].

However, the reference does not show the coatings transmitting at least 80% of visible light.

11. It is the examiner's position that, because the reference discloses all the limitations of the claims except the properties of the visible light transmission, the examiner cannot determine whether or not the reference inherently possesses properties which anticipate or render the claimed invention obvious. Therefore, it is appropriate for the examiner to make a rejection under both the applicable section of 35 USC 102 and 35 USC 103 such that the burden is placed upon the applicant to provide clear evidence that the respective compositions do in fact differ. *In re Fitzgerald et al.*, 205 USPQ 594.

12. Because the reference teaches the use of multiple cholesteric layers similar to those of the applicant's examples having high visible light transmission, where the

Art Unit: 1711

cholesteric film possesses high reflection in the infrared wavelength range, it is the examiner's position that the films formed by the reference would inherently possess the applicant's claimed visible light transmission.

13. In the alternative, the reference teaches the combination of several layers of cholesteric materials, where the radiation reflection and transmission properties vary with the different layers. It is the examiner's position that it would have been prima facie obvious to form a film transmitting at least 80% of visible light to optimize the lighting conditions on the inside of a window formed with the films.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melanie Bagwell-Bissett whose telephone number is (703) 308-6539. The examiner can normally be reached on M-F 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (703) 308-2462. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

mdb
February 25, 2002

